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Baltimore Aircoil Company

January 14, 2003

Mr. G. William Pennington
Chief Energy Efficiency Program Specialist
California Energy Commission
1516 9th Street, MS 28
Sacramento, CA 95814-5512

Subject: Field Test Data on Certified and Non Certified Cooling Towers

Dear Mr. Pennington,

In an effort to provide you with some actual field test data on certified versus non-certified cooling towers, I came across the following promotional brochure which BAC had prepared in the late 1980s to expand industry awareness of CTI certification. Although somewhat dated, I believe you may find it of interest.

Figure 1 in the brochure reflects actual field test data on certified versus non-certified cooling towers. This data was compiled by the Midwest Research Institute which, at that time, was the exclusive testing agency authorized by CTI. Although the range of data extends into design flows which are most likely being met with field erected cooling towers, I believe that most of the data below 3000 GPM is comprised of factory assembled towers.

Very truly yours,

James Furlong
Vice President of Sales

Copy to:

B. Alcorn, California Energy Commission
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D. Mills, California Energy Commission
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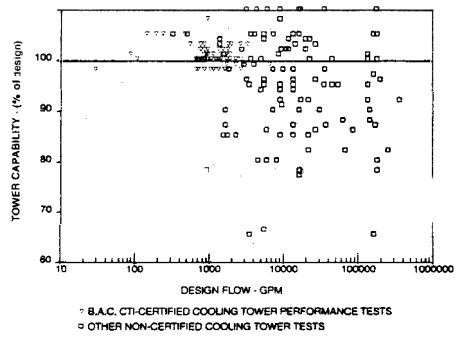
Independent test data shows that many new cooling towers fall short of providing their rated capacity. Cooling towers that do not produce fully rated capacity add unneeded operating costs to the owner.

INDEPENDENT TEST RESULTS FOR NEW COOLING TOWERS



Source: "Report on CTI Testing Activites" for the years 1982-1987, by the Midwest Research Institute

FIGURE 1

1. Figure 1 shows the results of five years of CTI testing of new cooling towers. You can see that many cooling towers fell far short of rated capacity even though the suppliers knew that the towers were going to be independently tested.

2. A cooling tower that is not producing its fully rated capacity will provide higher leaving water temperatures which result in consistently higher condensing temperatures.

3. Higher condensing temperatures require the chiller to use higher horsepower to provide the necessary cooling power.

4. In many cases this added operating cost is not recognized as a problem because the system load is satisified due to diversity, low occupancy, and other factors.

THE EFFECT OF COOLING TOWER CAPABILITY ON CHILLER OPERATING COSTS

RATE STRUCTURE: Los Angeles - Southern California Edison TOU-8
Baltimore - Baltimore Gas And Electric GL Dallas - Dallas Power And Light GL

FIGURE 2

1. Figure 2 shows some typical operating cost increases required to satisfy air conditioning loads if a cooling tower has a less than fully rated capacity.

2. For example, if an owner in Baltimore,MD. has an 80% cooling tower, he will pay an annual operating cost penalty of $4/ton due to the deficiency of the cooling tower. This is approximately 10% of the original cost of the cooling tower.

3. This means that CTI-Certified cooling towers save the owner money throughout the year -- and do not just protect him against operating problems on design days.

4. It also means that owners save operating costs each and every year throughout the life of the building.

PROTECT YOUR INTERESTS AND YOUR BUDGET BY DEMANDING INDEPENDENTLY VERIFIED PERFORMANCE.

SPECIFY CTI-CERTIFIED COOLING TOWERS.

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